

ABSTRACT

suba: > The present invention related to a polycrystalline silicon film containing Ni which is formed by crystallizing an amorphous silicon layer containing nickel. The present invention includes a polycrystalline silicon film wherein the polycrystalline film contains Ni atoms of which density ranges 2×10^{17} to 5×10^{19} atoms/cm³ in average and comprises a plurality of bar-like silicon crystallites. In another aspect, the present invention includes a polycrystalline silicon film wherein the polycrystalline film contains Ni atoms of which density ranges 2×10^{17} to 5×10^{19} atoms/cm³, comprises a plurality of bar-like silicon crystallites and is formed on an insulating substrate. Such a polysilicon film according to the present invention avoids metal contamination usually generated in a conventional method of metal induced crystallization. Accordingly, the polysilicon film of the present invention is applied to the fabrication of a TFT-LCD, a solar cell, etc. instead of polysilicon crystallized by the current laser crystallization.